Grade 7[1]—PBA

This blueprint extends Table D.7 in the ITN[2] down into Grade 7, providing more specificity as well as a further iteration of draft design elements covered in the ITN.

Part 1a. Part 1a consists of six (6) tasks, each worth 1 point (these are tasks of Type I.1[3]). Table 7PBA(1a) lists Evidence Statements for Part(1a). Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form.
- Calculation aids are not provided to students for tasks in Part 1a except for appropriate accessibility purposes.

Table 7-PBA(1a). Evidence Statements for Grade 7 PBA Part 1a

No. Tasks[4]	Probability[5]	Claim Code[6]	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[7]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	2/3	1	7.RP.2b	Recognize and represent proportional relationships between quantities: b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	i) Pool should contain tasks with and without contexts. ii) Tasks sample equally across the listed representations (graphs, equations, diagrams, and verbal descriptions).	MP.2, MP.8 MP.5	Analyze proportional relationships and use them to solve real-world and mathematical problems.
	1/3	1	7.RP.2c	Recognize and represent proportional relationships between quantities: c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*	i) Tasks have a context.	MP.2, MP.8	Analyze proportional relationships and use them to solve real-world and mathematical problems.
1	1/16	1	7.NS.1a	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*	i) Tasks require students to recognize or identify situations of the kind described in standard 7.NS.1a.	MP.5	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/6	1	7.NS.1b-1	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks involve a number line.	MP.5, MP.7	Apply and extend previous understandings of operations with fractions to add, subtract,

[1] Where calculation aids are provided, these perform only the following functions: addition, subtraction, multiplication, and division of nonnegative whole numbers and decimals.
[2] See Table D.7, "Grade 8, Performance Based Assessment Blueprint – Preliminary Draft – Operational portion (equating and field testing items not yet included)," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.
[3] See Table D.2, "Task Types and Descriptions," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.
[4] This is the number of task(s) that will appear on a form to generate evidence for one or more of the indicated evidence statement(s).
[5] Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form. Note that the sum of the probabilities over the indicated set of evidence statements equals the number of tasks to be apportioned among them. Note also that in any case where $T > 1$ tasks are to be apportioned among $E > T$ evidence statements, all E-choose-T unordered T-tuples of distinct evidence statements are considered equally likely. For example, if 3 tasks are to be apportioned among 12 evidence statements, then all 220 possible unordered triples of distinct evidence statements are considered equally likely; it follows that each individual evidence statement has probability 3/12 = 1/4.
[6] **1** = Sub-Claim A but not Sub-Claims C or E. **2** = Sub-Claims A and C. **3** = Sub-Claims A and E. **4** = Sub-Claim D. **5** = Sub-Claim B. (If more than one code is listed, points are divided evenly among listed codes, with any remainder coded to **1**.) See the Grade Summary for totals by claim code.
[7] Practices listed in the top half of the cell indicate that tasks are *ipso facto* Practice-forward for that practice; practices listed in the bottom half are potentially Practice-forward for that practice, depending on the task. See also Appendix F (Revised), "Illustrations of Innovative Task Characteristics," particularly section F(A)(2), "Practice-Forward Tasks," and especially Table F.f, "General Cases of Practice-Forward Tasks (not a complete list)", in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F10407_ITN201231AppendixF11012.pdf; see also Appendix D, "Supporting Design Documents for Mathematics," particularly section IV, "Operationalizing Assessment of the Mathematical Practices," and section V, "Practice-forward tasks," in http://myflorida.com/apps/vbs/adoc/F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf

No. Tasks[4]	Probability[5]	Claim Code[6]	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[7]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
				b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative.	iv) Tasks do not require students to show in general that a number and its opposite have a sum of 0; for this aspect of standard 7.NS.1b, see Grade 7 PBA Part 2.		multiply and divide rational numbers.
	1/16	1	7.NS.1b-2	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. b. Interpret sums of rational numbers by describing real-world contexts.	i) Tasks require students to produce or recognize real-world contexts that correspond to given sums of rational numbers. ii) Tasks are not limited to integers. iii) Tasks do not require students to show in general that a number and its opposite have a sum of 0; for this aspect of standard 7.NS.1b, see Grade 7 PBA Part 2.	MP.2, MP.3 MP.5	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/6	1	7.NS.1c-1	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. c. Understand subtraction of rational numbers as adding the additive inverse, p – q = p + (–q). Apply this principle in real-world contexts.	i) Pool should contain tasks with and without contexts. ii) Contextual tasks might, for example, require students to create or identify a situation described by a specific equation of the general form p – q = p + (–q) such as 3 – 5 = 3 + (–5). iii) Non-contextual tasks are not computation tasks but rather require students to demonstrate conceptual understanding, for example by identifying a sum that is equivalent to a given difference. For example, given the difference –1/3 – (1/5 + 5/8), the student might be asked to recognize the equivalent expression –1/3 + –(1/5 + 5/8). iv) Tasks are not limited to integers.	MP.2, MP.7 MP.5	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/16	1	7.NS.1d	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. d. Apply properties of operations as strategies to add and subtract rational numbers	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks may involve sums and differences of 2 or 3 rational numbers. iv) Tasks require students to represent addition and subtraction on a horizontal or vertical number line,[8] or compute a sum or difference, or demonstrate conceptual understanding for example by producing or recognizing an expression equivalent to a given sum or difference. For example, given the sum –8.1 + 7.4, the student might be asked to recognize or produce the equivalent expression –(8.1 – 7.4).	MP.7 MP.5	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/16	1	7.NS.2a-1	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers.	i) Tasks do not have a context. ii) Tasks are not computation tasks but rather require students to demonstrate conceptual understanding, for example by providing students with a numerical expression and requiring students to produce or recognize an equivalent expression using properties of operations, particularly the distributive property. For example, given the expression (–3)(6 + –4 + –3), the student might be asked to recognize that the given expression is equivalent to (–3)(6 + –4) + (–3)(–3).	MP.7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/16	1	7.NS.2a-2	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Interpret products of rational numbers by describing real-world contexts.	-	MP.2 MP.4	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/16	1	7.NS.2b-1	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then -(p/q) = (–p)/q =p/(–q).	i) Tasks do not have a context. ii) Tasks are not computation tasks but rather require students to demonstrate conceptual understanding, for example by providing students with a numerical expression and requiring students to produce or recognize an equivalent expression.	MP.7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/16	1	7.NS.2b-2	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. c. Interpret quotients of rational numbers by describing real-world contexts.	-	MP.2 MP.4	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/16	1	7.NS.2c	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. c. Apply properties of operations as strategies to multiply and divide rational numbers.	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks may involve products and quotients of 2 or 3 rational numbers. iv) Tasks require students to compute a sum or difference, or demonstrate conceptual understanding for example by producing or recognizing an expression equivalent to a given expression. For example, given the product $(-8)(6)/(-3)$, the student might be asked to recognize or produce the equivalent expression $-(8/3)(-6)$.	MP.7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.

[8] For example, on http://illustrativemathematics.org, see the illustration for 7.NS.1 called "Operations on the number line."

No. Tasks[4]	Probability[5]	Claim Code[6]	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices[7]	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
	1/6	1	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.	i) Tasks are one-step word problems. ii) Tasks sample equally between addition/subtraction and multiplication/division. iii) Tasks involve at least one negative number. iv) Tasks are not limited to integers.	MP.1, MP.4	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
1	-	1	7.EE.1	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	i) Tasks may involve issues of strategy, e.g., by providing a factored expression such as y(3+x+k) and a fully expanded expression 3y + xy + ky, and requiring students to produce or identify a new expression equivalent to both (such as y(3+x) + yk). ii) Tasks are not limited to integer coefficients.	MP.7	Use properties of operations to generate equivalent expressions.
1	-	1	6.RP.2	Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."*	i) Expectations for unit rates in this grade are limited to non-complex fractions. (See footnote, CCSS p 42.)	MP.2	Understand ratio concepts and use ratio reasoning to solve problems.
1	-	1	6.NS.1-2	Solve word problems involving division of fractions by fractions, *For example, How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?*	i) Only the answer is required; explanations and representations are not assessed here. (For this part of standard 6.NS.1, see Grade 6 PBA Part 2.) ii) Note that the italicized examples correspond to three meanings/uses of division: (1) equal sharing; (2) measurement; (3) unknown factor. These meanings/uses of division should be sampled equally.	MP.4	Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
1	-	1	6.NS.5	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.	i) Tasks do not require students to perform any computations. ii) Students may be asked to recognized the meaning of zero in the situation, but will not be asked to explain.	MP.2 MP.5	Apply and extend previous understandings of numbers to the system of rational numbers.

Part 1b. Part 1b consists of two (2) tasks, each worth 1 point (Type I.1). Table 7PBA(1b) lists Evidence Statements for Part(1b). Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- A calculation aid of the specified kind can be provided to students for these tasks..[9]

Table 7-PBA(1b). Evidence Statements for Grade 7 PBA Part 1b

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	-	1	7.RP.1	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.*	i) Tasks have a context. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.2, MP.6, MP.4	Analyze proportional relationships and use them to solve real-world and mathematical problems.
1	-	1	7.RP.2a	Recognize and represent proportional relationships between quantities: a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.	i) Tasks have "thin context"[10] or no context. ii) Tasks may offer opportunities for students to investigate a relationship by constructing graphs or tables; however, students can opt not to use these tools. iii) Tasks are not limited to ratios of whole numbers. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.2 MP.5	Analyze proportional relationships and use them to solve real-world and mathematical problems.

[9] If so, then students will not be able to return to tasks in Table 7-PBA(1a) after beginning work on these tasks.

[10] "Thin context" is a sentence or phrase that establishes a concrete referent for the quantity/quantities in the problem, in such a way as to provide meaningful avenues for mathematical intuition to operate, yet without requiring any sort of further analysis of the context. For an example of thin context, see the "Animal Populations" problem on the Illustrative Mathematics website. Thin context is not the same thing as phony context, which one often sees on standardized tests. An example of phony context: "There are 2358 birds in the park. What is the value of the 5 in 2358?" This context is phony because birds and parks play no part in the mental processes of the person answering the question. Thin context is thinner than the context provided in a word problem

Part 1c. Part 1c consists of two (2) tasks worth 2 points, totaling 4 points in all.

Table 7-PBA(1c) lists evidence statements for Part 1c. Tasks for this part satisfy the following constraints:

- Each task on Part 1c generates evidence for a single evidence statement key in the table and each evidence statement is assessed by at most one task.
- Each of the evidence statements in Table 7-PBA(1c) is equally likely to be assessed .
- A calculation aid of the specified kind can be provided to students for these tasks. [11]

Table 7-PBA(1c). Evidence Statements for Grade 7 PBA Part 1c

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.5	Solve real-life and mathematical problems using numerical and algebraic expressions and equations
1	7.EE.4a-1	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers.	i) Comparison of an algebraic solution to an arithmetic solution is not assessed here; for this aspect of standard 7.EE.4a, see Grade 7 PBA Part 2.	MP.1, MP.2, MP.6, MP.7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations

[11] If so, then students will not be able to return to tasks in Table 7-PBA(1a) after beginning work on these tasks.

Part 2.

Sub Claim C: Highlighted Practices MP.3,6 with Connections to Content: expressing mathematical reasoning. The student expresses grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others and/or attending to precision when making mathematical statements.

The formulation *"Use drawings, words, and/or equations"* can be useful in tasks generating evidence for Claim C (expressing mathematical reasoning).

Assessing students' expressions of mathematical reasoning typically requires some hand scoring of tasks. However, PARCC is interested in possible technological innovations that can allow tasks assessing this aspect of the standards to be machine scored or partially machine scored. PARCC is also interested in transformative technological innovations that can enrich the range of activities beyond what is possible with a paper test (e.g., assembling shapes to prove or disprove a conjecture).

Part 2 consists of four (4) tasks: two (2) three-point tasks and two (2) four-point tasks, totaling 14 points in all.

Table 7-PBA(2) (see below) lists evidence statements for Part 2. Tasks for this part satisfy the following constraints:

- Each task on Part 2 generates evidence for a single evidence statement in the table and each evidence statement is assessed by at most one task.
- The number of tasks in each content and process domain is specified by the Form Construction Tables.
- Evidence Statements within a given content or process domain are equally likely to be assessed.
- For Evidence Statements with more than one standard listed within the Content Scope, contractors may select one or more while keeping a balanced pool.
- A calculation aid of the specified kind can be provided to students for these tasks. [12]

Table 7-PBA(2).[13] Evidence Statements for Grade 7 PBA Part 2

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
2	7.C.1.1	Base explanations/reasoning on the properties of operations.[14] Content Scope: Knowledge and skills articulated in 7.NS.1 and 7.NS.2		MP.1, MP.2, MP.3, MP.5, MP.6 and MP.7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
2	7.C.1.2	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 7.EE.1		MP.3, MP.6, and MP.7	Use properties of operations to generate equivalent expressions
2	7.C.2	Base explanations/reasoning on the relationship between addition and subtraction or the relationship between multiplication and division.[15] Content Scope: Knowledge and skills articulated in 7.NS.1 and 7.NS.2		MP.1, MP.2, MP.3, MP.5, MP.6 and MP.7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
2	7.C.3	Base explanations/reasoning on a number line diagram (whether provided in the prompt or constructed by the student in her response). Content Scope: Knowledge and skills articulated in 7.NS.A		MP.1, MP.2, MP.3, MP.5, MP.6 and MP.7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
2	7.C.4	Base explanations/reasoning on a coordinate plane diagram (whether provided in the prompt or constructed by the student in her response).		MP.2, MP.3, MP.5, and MP.6	Analyze proportional relationships and use them to

[12] If so, then students will not be able to return to tasks in Table 7-PBA(1a) after beginning work on these tasks.
[13] This table need not be considered complete or final. For context see Appendix D, "Sub Sub-Claim C: Highlighted Practices MP.3,6 with Connections to Content: expressing mathematical reasoning," particularly "Evidence Statements for Sub-Claim C," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf. Note also that some Dana Center prototype tasks for sub-claim C will include possible candidates for evidence statements for sub-claim C.
[14] Properties of operations are a recurring theme throughout the standards to foster coherence and build a bridge from arithmetic to algebra. "These Standards endeavor to follow [a coherent] design, not only by stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value or the properties of operations to structure those ideas." (CCSSM, p. 4)
[15] The relationships between inverse operations are a recurring theme throughout the arithmetic progressions in the standards (see 1.OA.4, 1.NBT.4, 1.NBT.6, 2.NBT.5, 2.NBT.7, 3.NBT.2, 3.OA.6, 4.NBT.5, 4.NBT.6, 4.NF.3c, 5.NBT.6, 5.NBT.7, 5.NF.3 (italics), 5.NF.7a (italics), 5.NF.7b (italics), 6.NS.1 (italics), 7.NS.1, 7.NS.2. This list does not include the way that the relationships between inverse operations factor into work with word problems in the OA progression.

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
		Content Scope: Knowledge and skills articulated in 7.RP.A			solve real-world and mathematical problems.
2	7.C.5	Given an equation or system of equations, present the solution steps as a logical argument that concludes with the set of solutions (if any).[16] Content Scope: Knowledge and skills articulated in 7.EE.4a		MP.1, MP.2, MP.3, MP.6, and MP.7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations
2	7.C.6.1	Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures. Content Scope: Knowledge and skills articulated in 7.RP.2		MP.2, MP.3, and MP.6	Analyze proportional relationships and use them to solve real-world and mathematical problems.
2	7.C.7.1	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 7.RP.3		MP.1, MP.3, MP.6, MP.7, and MP.8	Analyze proportional relationships and use them to solve real-world and mathematical problems.
2	7.C.7.2	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 7.NS.2d		MP.1, MP.3, MP.6, MP.7, and MP.8	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
2	7.C.7.3	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 7.NS.3		MP.1, MP.3, MP.6, MP.7, and MP.8	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
2	7.C.7.4	Present solutions to multi-step problems in the form of valid chains of reasoning, using symbols such as equals signs appropriately (for example, rubrics award less than full credit for the presence of nonsense statements such as 1 + 4 = 5 + 7 = 12, even if the final answer is correct), or identify or describe errors in solutions to multi-step problems and present corrected solutions. Content Scope: Knowledge and skills articulated in 7.EE.3		MP.1, MP.3, MP.6, MP.7, and MP.8	Solve real-life and mathematical problems using numerical and algebraic expressions and equations

[16] See ITN Appendix F, Table F.f, "General Cases of Practice-Forward Tasks (not a complete list)," MP.6 (Attend to precision); see also ITN Appendix D, "How the Claim Derives from the Standards," in "Sub-Claim C: Highlighted Practices MP.3,6 with Connections to Content: Expressing Mathematical Reasoning." Reasoned solving is a theme in the standards from grade 6 on into high school (cf. 6.EE.5, 8.EE.5, A-REI.A). See also PARCC Model Content Frameworks, p. 56.

Part 3a.

Sub Claim D: Highlighted Practice MP.4 with Connections to Content: modeling/application. The student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course (or, for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), *engaging particularly in the Modeling practice*, and where helpful making sense of problems and persevering to solve them (MP.1), reasoning abstractly and quantitatively (MP.2), using appropriate tools strategically (MP.5), looking for and making use of structure (MP.7), and/or looking for and expressing regularity in repeated reasoning (MP.8).

Part 3a consists of two (2) tasks, each worth three points, totaling 6 points in all.

- There is one evidence statement for Part 3a, given in Table 3-PBA(3a) below.
- Both tasks should assess the following evidence statement with sufficient variety.
- When utilizing an Evidence Statement from PBA(1a) or PBA(1b) please note the "clarifications, limits and emphases" that accompanies the Evidence Statement.
- A calculation aid of the specified kind can be provided to students for these tasks. [17]

Table 7-PBA(3a).[18] Evidence Statement for Grade 7 PBA Part 3a

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
4	7.D.1	Solve multi-step contextual word problems with degree of difficulty appropriate to grade 7, requiring application of knowledge and skills articulated in Tables 7-PBA(1a), 7-PBA(1b), 7-PBA(1c).	Tasks may have scaffolding if necessary in order yield a degree of difficulty appropriate to grade 7.	MP.4. MP.1, MP2, MP.5, MP.7.	-

[17] If so, then students will not be able to return to tasks in Table 7-PBA(1a) after beginning work on these tasks.
[18] This table need not be considered complete or final. For context see Appendix D, "Sub Sub-Claim C: Highlighted Practices MP.3,6 with Connections to Content: expressing mathematical reasoning," particularly "Evidence Statements for Sub-Claim C," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf. Note also that some Dana Center prototype tasks for sub-claim C will include possible candidates for evidence statements for sub-claim C.

Part 3b.

Sub Claim D: Highlighted Practice MP.4 with Connections to Content: modeling/application. The student solves real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course (or, for more complex problems, knowledge and skills articulated in the standards for previous grades/courses), *engaging particularly in the Modeling practice*, and where helpful making sense of problems and persevering to solve them (MP.1), reasoning abstractly and quantitatively (MP.2), using appropriate tools strategically (MP.5), looking for and making use of structure (MP.7), and/or looking for and expressing regularity in repeated reasoning (MP.8).

Part 3b consists of one (1) task worth six points.

Table 7-PBA(3b) lists evidence statements for Part 3b. Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single Evidence Statement in the table.
- Each of the evidence statements in Table 7-PBA(3b) is equally likely to be assessed.
- A calculation aid of the specified kind can be provided to students for these tasks. [19]

Table 7-PBA(3b).[20] Equiprobable Evidence Statements for Grade 7 PBA Part 3b

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
4	7.D.2	Solve multi-step contextual problems with degree of difficulty appropriate to grade 7, requiring application of knowledge and skills articulated in 6.RP.A, 6.EE.C, 6.G.	Tasks may have scaffolding if necessary in order yield a degree of difficulty appropriate to grade 7.	MP.4 MP.1, MP2, MP.5, MP.7	-
4	7.D.3	Micro-models: Autonomously apply a technique from pure mathematics to a real-world situation in which the technique yields valuable results even though it is obviously not applicable in a strict mathematical sense (e.g., profitably applying proportional relationships to a phenomenon that is obviously nonlinear or statistical in nature).[21] Content Scope: Knowledge and skills articulated in 6.RP.A, 6.EE.C, 6.G	Tasks may have scaffolding if necessary in order yield a degree of difficulty appropriate to grade 7.	MP.4. MP1, MP2, MP.5, MP.7	-
4	7.D.4	Reasoned estimates: Use reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity.[22] Content Scope: Knowledge and skills articulated in 6.RP.A, 6.EE.C, 6.G	Tasks may have scaffolding if necessary in order yield a degree of difficulty appropriate to grade 7.	MP.4 MP1. MP.2, MP.5, MP.7.	-

[19] If so, then students will not be able to return to tasks in Table 7-PBA(1a) after beginning work on these tasks.
[20] This table need not be considered complete or final. For context see Appendix D, "Sub Sub-Claim C: Highlighted Practices MP.3,6 with Connections to Content: expressing mathematical reasoning," particularly "Evidence Statements for Sub-Claim C," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf. Note also that some Dana Center prototype tasks for sub-claim C will include possible candidates for evidence statements for sub-claim C.
[21] See Appendix F (Revised), "Illustrations of Innovative Task Characteristics," section F(A)(2), "Practice-Forward Tasks," Table F.f, "General Cases of Practice-Forward Tasks (not a complete list)", row 4 ("Model with mathematics"), in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F10407_ITN201231AppendixF11012.pdf; see also Appendix D, "Supporting Design Documents for Mathematics," section I, "Assessment Claims in Mathematics," subsection "Evidence Statements for Sub-Claim D," in http://myflorida.com/apps/vbs/adoc/F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf
[22] See Appendix F (Revised), "Illustrations of Innovative Task Characteristics," section F(A)(2), "Practice-Forward Tasks," Table F.f, "General Cases of Practice-Forward Tasks (not a complete list)", row 4 ("Model with mathematics"), in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F10407_ITN201231AppendixF11012.pdf; see also Appendix D, "Supporting Design Documents for Mathematics," section I, "Assessment Claims in Mathematics," subsection "Evidence Statements for Sub-Claim D," in http://myflorida.com/apps/vbs/adoc/F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf

Grade 7—EOY

This blueprint extends Table D.8 in the ITN[23] down into Grade 7, providing more specificity as well as a further iteration of draft design elements covered in the ITN.

Part 1a. Part 1a consists of seventeen (17) tasks, each worth 1 point (Type I.1).

Table 7-EOY(1a) lists Evidence Statements for Part(1a). Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form.
- Calculation aids are not provided to students for tasks in Part 1a except for appropriate accessibility purposes.

Table 7-EOY(1a). Blueprint for Grade 7 EOY Part 1a

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	2/3	1	7.RP.2b	Recognize and represent proportional relationships between quantities: b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	i) Pool should contain tasks with and without contexts. ii) Tasks sample equally across the listed representations (graphs, equations, diagrams, and verbal descriptions).	MP.2, MP.8 MP.5	Analyze proportional relationships and use them to solve real-world and mathematical problems.
	1/3	1	7.RP.2c	Recognize and represent proportional relationships between quantities: c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*	i) Tasks have a context.	MP.2, MP.8 	Analyze proportional relationships and use them to solve real-world and mathematical problems.
1	-	1	7.RP.2d	Recognize and represent proportional relationships between quantities. d. Explain what a point (x, y) on the graph of a proportional relationships means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.	i) Tasks require students to interpret a point (x, y) on the graph of a proportional relationship in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. (For the explanation aspect of standard 7.RP.2d , see Grade 7 PBA Part 2.)	MP.2, MP.4 	Analyze proportional relationships and use them to solve real-world and mathematical problems.
1	1/4	1	7.NS.1a	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*	i) Tasks require students to recognize or identify situations of the kind described in standard 7.NA.1a.	MP.5 	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/4	1	7.NS.1b-2	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. b.Interpret sums of rational numbers by describing real-world contexts.	i) Tasks require students to produce or recognize real-world contexts that correspond to given sums of rational numbers. ii) Tasks are not limited to integers. iii) Tasks do not require students to show in general that a number and its opposite have a sum of 0; for this aspect of standard 7.NS.1b, see Grade 7 PBA Part 2.	MP.2, MP.3 MP.5	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.

[23] See Table D.3, "Grade 3, Performance Based Assessment Blueprint – Preliminary Draft – Operational portion (equating and field testing items not yet included)," in http://myflorida.com/apps/vbs/vbs_pdf.download_file?p_file=F28718_AppendixPagesITN201231PARCCItemDevelopmentFinal.pdf.

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	1/2	1	7.NS.1b-1	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative.	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks involve a number line. iv) Tasks do not require students to show in general that a number and its opposite have a sum of 0; for this aspect of standard 7.NS.1b, see Grade 7 PBA Part 2.	MP.5, MP.7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/2	1	7.NS.1c-1	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. c. Understand subtraction of rational numbers as adding the additive inverse, p – q = p + (–q). Apply this principle in real-world contexts.	i) Pool should contain tasks with and without contexts. ii) Contextual tasks might, for example, require students to create or identify a situation described by a specific equation of the general form p – q = p + (–q) such as 3 – 5 = 3 + (–5). iii) Non-contextual tasks are not computation tasks but rather require students to demonstrate conceptual understanding, for example by identifying a sum that is equivalent to a given difference. For example, given the difference –1/3 – (1/5 + 5/8), the student might be asked to recognize the equivalent expression –1/3 + –(1/5 + 5/8). iv) Tasks are not limited to integers.	MP.2, MP.7 MP.5	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	1/2	1	7.NS.1d	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. d. Apply properties of operations as strategies to add and subtract rational numbers	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks may involve sums and differences of 2 or 3 rational numbers. iv) Tasks require students to represent addition and subtraction on a horizontal or vertical number line,[24] or compute a sum or difference, or demonstrate conceptual understanding for example by producing or recognizing an expression equivalent to a given sum or difference. For example, given the sum –8.1 + 7.4, the student might be asked to recognize or produce the equivalent expression –(8.1 – 7.4).	MP.7 MP.5	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
2	2/5	1	7.NS.2a-1	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers.	i) Tasks do not have a context. ii) Tasks are not computation tasks but rather require students to demonstrate conceptual understanding, for example by providing students with a numerical expression and requiring students to produce or recognize an equivalent expression using properties of operations, particularly the distributive property. For example, given the expression (–3)(6 + –4 + –3), the student might be asked to recognize that the given expression is equivalent to (–3)(6 + –4) + (–3)(–3).	MP.7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	2/5	1	7.NS.2a-2	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Interpret products of rational numbers by describing real-world contexts.	-	MP.2 MP.4	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	2/5	1	7.NS.2b-1	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then -(p/q) = (–p)/q =p/(–q).	i) Tasks do not have a context. ii) Tasks are not computation tasks but rather require students to demonstrate conceptual understanding, for example by providing students with a numerical expression and requiring students to produce or recognize an equivalent expression.	MP.7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	2/5	1	7.NS.2b-2	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. c. Interpret quotients of rational numbers by describing real-world contexts.	-	MP.2 MP.4	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
	2/5	1	7.NS.2c	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. c. Apply properties of operations as strategies to multiply and divide rational numbers.	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks may involve products and quotients of 2 or 3 rational numbers. iv) Tasks require students to compute a sum or difference, or demonstrate conceptual understanding for example by producing or recognizing an expression equivalent to a given expression. For example, given the product $(-8)(6)/(-3)$, the student might be asked to recognize or produce the equivalent expression $-(8/3)(-6)$.	MP.7	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
1	-	1	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.	i) Tasks are one-step word problems. ii) Tasks sample equally between addition/subtraction and multiplication/division.	MP.1, MP.4	Apply and extend previous understandings of operations

[24] For example, on http://illustrativemathematics.org, see the illustration for 7.NS.1 called "Operations on the number line."

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
					iii) Tasks involve at least one negative number. iv) Tasks are not limited to integers.		with fractions to add, subtract, multiply and divide rational numbers.
2	-	1	7.EE.1	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	i) Tasks may involve issues of strategy, e.g., by providing a factored expression such as y(3+x+k) and a fully expanded expression 3y + xy + ky, and requiring students to produce or identify a new expression equivalent to both (such as y(3+x) + yk). ii) Tasks are not limited to integer coefficients.	MP.7	Use properties of operations to generate equivalent expressions
2	-	1	7.EE.2	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*	-	MP.7	Use properties of operations to generate equivalent expressions
2	-	1	7.EE.4a-1	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers.	i) Comparison of an algebraic solution to an arithmetic solution is not assessed here; for this aspect of standard 7.EE.4a, see Grade 7 PBA Part 2.	MP.1, MP.2, MP.6, MP.7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations
1	3/4	1, 3	7.EE.4a-2	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Fluently solve equations of the form px + q = r and p(x+q) = r, where p, q, and r are specific rational numbers.	i) Each task requires students to solve two equations (one of each of the given two forms). Only the answer is required. ii) Fluency is assessed implicitly by requiring the student to solve two equations. Tasks are not timed. iii) Comparison of an algebraic solution to an arithmetic solution is not assessed here; for this aspect of standard 7.EE.4a, see Grade 7 PBA Part 2.	MP.6, MP.7	Solve real-life and mathematical problems using numerical and algebraic expressions and equations
	1/4	1	7.EE.4b	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*	-	MP.1, MP.2, MP.6, MP.7 MP.5	Solve real-life and mathematical problems using numerical and algebraic expressions and equations
1	-	1	6.NS.6a	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite.	i) Tasks have “thin context” or no context.	MP.8 MP.5	Apply and extend previous understandings of numbers to the system of rational numbers.
1	-	1	6.NS.7c-1	Understand ordering and absolute value of rational numbers. c. Understand the absolute value of a rational number as its distance from 0 on the number line.	i) Tasks do not have a context. ii) Tasks are not limited to integers.	MP.2, MP.5	Apply and extend previous understandings of numbers to the system of rational numbers.
1	-	1	6.EE.4	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*		MP.7	Apply and extend previous understandings of arithmetic to algebraic expressions

Part 1b. Part 1b consists of eight (8) tasks, each worth 1 point (Type I.1). Table 7-EOY(1b) lists Evidence Statements for Part(1b). Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form.
- A calculation aid of the specified kind can be provided to students for these tasks.[25]

Table 7-EOY(1b). Blueprint for Grade 7 EOY Part 1b

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	-	1	7.RP.1	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.*	i) Tasks have a context. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.2, MP.6, MP.4	Analyze proportional relationships and use them to solve real-world and mathematical problems.
1	-	1	7.RP.2a	Recognize and represent proportional relationships between quantities: a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.	i) Tasks have "thin context" or no context. ii) Tasks may offer opportunities for students to investigate a relationship by constructing graphs or tables; however, students can opt not to use these tools. iii) Tasks are not limited to ratios of whole numbers. iv) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.2 MP.5	Analyze proportional relationships and use them to solve real-world and mathematical problems.
1	-	1	6.RP.3b	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. b. Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*	i) See ITN Appendix F, Table F.c, "Minimizing or avoiding common drawbacks of selected response," specifically, Illustration 1 (in contrast to the problem "A bird flew 20 miles in 100 minutes. At that speed, how long would it take the bird to fly 6 miles?") ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks. iii) Expectations for unit rates in this grade are limited to non-complex fractions. (See footnote, CCSS p 42)	MP.2, MP.8 MP.5	Understand ratio concepts and use ratio reasoning to solve problems.
1	-	1	6.RP.3c-2	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. c. Solve problems involving finding the whole, given a part and the percent.	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.2, MP.7 MP.5, MP.8	Understand ratio concepts and use ratio reasoning to solve problems.
1	-	1	6.NS.8	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	i) Pool should contain tasks with and without contexts. ii) Finding distances is limited to points with integer coordinates. iii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.1, MP.2, MP.5	Apply and extend previous understandings of numbers to the system of rational numbers.
1	-	1	6.EE.2a	Write, read, and evaluate expressions in which letters stand for numbers. A. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5 – y.*	i) Tasks do not have a context. ii) Numerical values in these expressions may include whole numbers, fractions, and decimals. iii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.8	Apply and extend previous understandings of arithmetic to algebraic expressions

[25] If so, then students will not be able to return to tasks in Table 7-EOY(1a) after beginning work on these tasks.

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	-	1	6.EE.7	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.	i) Problem situations are of "algebraic" type, not "arithmetic" type. See ITN, Appendix F, Table F.d and the *Progression* for Expressions and Equations, pp. 3,4.[26] ii) 50% of tasks involve whole-number values of p, q, and/or x; 50% of tasks involve fraction or decimal values of p, q, and/or x. Fractions and decimals should not appear together in the same problem. (Cf. 7.EE.3.) iii) A valid equation and the correct answer are both required for full credit. iv) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.1, MP.2, MP.6, MP.7	Reason about and solve one-variable equations and inequalities
1	-	1	6.EE.9	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.*	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.2, MP.4, MP6, MP.8	Represent and analyze quantitative relationships between dependent and independent variables

[26] http://commoncoretools.files.wordpress.com/2011/04/ccss_progression_ee_2011_04_25.pdf

Part 2. Part 2 consists of seven (7) tasks, each worth 1 point (Type I.1).

Table 7-EOY(2) lists Evidence Statements for Part 2. Tasks for this part satisfy the following constraints:

- Each task generates evidence for a single evidence statement in the table.
- The number of tasks in each content domain is specified by the Form Construction Tables.
- Probabilities are given in cases where sampling is necessary (because the number of tasks in the leftmost column is less than the number of corresponding evidence statements). In these cases, the probability column specifies the probability that any given evidence statement will be assessed on any given form.
- A calculation aid of the specified kind can be provided to students for these tasks.[27]

Table 7-EOY(2). Blueprint for Grade 7 EOY Part 2

No. Tasks	Probability	Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	1/2	5	7.G.3	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	i) Tasks have" thin context" or no context. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.5	Draw, construct, and describe geometrical figures and describe the relationships between them
	1/2	5	7.G.4-2	Give an informal derivation of the relationship between the circumference and area of a circle	i) Tasks require students to identify or produce a logical conclusion about the relationship between the circumference and the area of a circle, e.g., that given three circles with areas A1 > A2 > A3, the circumferences satisfy C1 > C2 > C3. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.2 MP.5	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume
1	1/2	5	7.SP.1	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4	Use random sampling to draw inferences about a population
	1/2	5	7.SP.3	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*	i) Tasks may use mean absolute deviation or range as a measure of variability. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4	Draw informal comparative inferences about two populations
2	-	5	7.SP.4	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh grade science book are generally longer than the words in a chapter of a fourth grade science book.*	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4	Draw informal comparative inferences about two populations
1	-	5	7.SP.5	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4	Investigate chance processes and develop, use, and evaluate probability models
1	-	5	7.SP.6	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict	i) Tasks require the student to make a prediction based on long-run relative frequency in data from a chance process. Data can	MP.4	Investigate chance processes and develop, use, and evaluate

[27] If so, then students will not be able to return to tasks in Table 7-EOY(1a) after beginning work on these tasks.

				the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*	be provided, or if the task is technology-enhanced, the task can simulate a data-gathering process. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.		probability models
1	1/2	5	7.SP.7a	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.*	i) Simple events only. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4	Investigate chance processes and develop, use, and evaluate probability models
	1/6	5	7.SP.7b	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*	i) Data can be provided, or if the task is technology-enhanced, the task can simulate a data-gathering process. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4	Investigate chance processes and develop, use, and evaluate probability models
	1/6	5	7.SP.8a	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4, MP.5	Investigate chance processes and develop, use, and evaluate probability models
	1/6	5	7.SP.8b	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4, MP.5	Investigate chance processes and develop, use, and evaluate probability models

Part 3a. Part 3a consists of three tasks, one task worth 4 points and two tasks worth two points each.

Table 7-EOY(3a) lists Evidence Statements for Part (3a). Tasks for this part satisfy the following constraints:

- Each task on Part(3a) generates evidence for a single Evidence Statement in the table.
- Each Evidence Statement generates one or two tasks worth a total of 4 points.
- A calculation aid of the specified kind can be provided to students for these tasks.[28]

Table 7-EOY(3a). Evidence Statement for Grade 7 EOY Part 3a

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	7.RP.3-1	Use proportional relationships to solve multistep ratio problems.	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.1, MP.2, MP.6	Analyze proportional relationships and use them to solve real-world and mathematical problems.
1	7.RP.3-2	Use proportional relationships to solve multistep percent problems. *Examples: simple interest, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.1, MP.2, MP.5, MP.6	Analyze proportional relationships and use them to solve real-world and mathematical problems.

[28] If so, then students will not be able to return to tasks in Table 7-EOY(1a) after beginning work on these tasks.

Part 3b. Part 3b consists of two 2-point tasks.

- There is one evidence statement for Part 3b, given in Table 7-EOY(3b) below.
- Both tasks should assess the following Evidence Statements with sufficient variety.
- A calculation aid of the specified kind can be provided to students for these tasks.[29]

Table 7-EOY(3b). Evidence Statement for Grade 7 EOY Part 3b

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
1	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.5	Solve real-life and mathematical problems using numerical and algebraic expressions and equations

[29] If so, then students will not be able to return to tasks in Table 7-EOY(1a) after beginning work on these tasks.

Part 3c. Part 3c consists of five(5) two-point tasks, totaling 10 points in all.

Table 7-EOY(3c) lists evidence statements for Part 3c.

- Each task on Part 3d generates evidence for a single evidence statement key in the table and each Evidence Statement is assessed by at most one task.
- The distribution of tasks across Content Areas is specified by the Form Construction Tables.
- Evidence Statements within a given Content Domain are equally likely to be assessed
- A calculation aid of the specified kind can be provided to students for these tasks.[30]

Table 7-EOY(3d). Evidence Statements for Grade 7 EOY Part 3d

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
5	7.G.1	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	i) Pool should contain tasks with and without contexts. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.2, MP.5	Draw, construct, and describe geometrical figures and describe the relationships between them
5	7.G.2	Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	i) Tasks do not have a context. ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.3, MP.5, MP.6	Draw, construct, and describe geometrical figures and describe the relationships between them
5	7.G.4-1	Know the formulas for the area and circumference of a circle and use them to solve problems.	i) Pool should contain tasks with and without contexts.ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4, MP.5	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume
5	7.G.5	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	i) Pool should contain tasks with and without contexts. Ii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.5, MP.6	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume
5	7.G.6	Solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	i) Pool should contain tasks with and without contexts. ii) Tasks focus on area of two-dimensional objects. iii) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.1 MP.5	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume
5	7.SP.2	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4	Use random sampling to draw inferences about a population
5	7.SP.8c	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	i) The testing interface can provide students with a calculation aid of the specified kind for these tasks.	MP.4	Investigate chance processes and develop, use, and evaluate probability models

[30] If so, then students will not be able to return to tasks in Table 7-EOY(1a) after beginning work on these tasks.

Claim Code	Evidence Statement Key	Evidence Statement Text	Clarifications, limits, emphases, and other information intended to ensure appropriate variety in tasks	Relationship to Mathematical Practices	*Relevant CCSSM cluster heading (for reference and to remind developers of the general goals of the standards in this area)*
		c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*		MP.5	

Grade 7 Summary

Number of **Tasks** by Type and Component

Type	PBA(1)	PBA(2)	PBA(3)	EOY	Total
I / 1 point	8			32	40
I / 2 points	2			9	11
I / 3 points				0	0
I / 4 points				1	1
II / 3 points		2			2
II / 4 points		2			2
III / 3 points			2		2
III / 6 points			1		1

44% of tasks

Mean points per task (MPPT):[31]

Component	Points	Tasks	MPPT
PBA(1a)	6	6	1.00
PBA(1b)	2	2	1.00
PBA(1c)	4	2	2.00
PBA(2)	14	4	3.50
PBA(3)	12	3	4.00
EOY(1)	25	25	1.00
EOY(2)	7	7	1.00
EOY(3)	22	10	2.20
Overall	**92**	**59**	**1.56**

Number of points by sub-claim (disjoint categories)

Claim Code	Sub-Claim	Gr. N	Gr. N-1	Total
1	A but not C or E	36.5	12	48.5
2	A and C	14		14
3	A and E[32]	0.5		0.5
4	D	6	6[33]	12
5	B	17		17
	Total	**74**	**18**	**92**

Approximate Points by Grade, Cluster and Domain

Does not include Sub-Claim D Modeling/application, or previous grade. Italicized numbers are the sum of points located to the left and below. Some entries are approximate; roundoff errors may lead to apparent inconsistencies. True total is shown in parentheses.

[31] Mean points per task (MPPT) is tabulated as a rough measure of "surface richness" of the test. Note for comparison that MCAS grade 8 has MPPT = 54/42 = 1.28. A related heuristic is the fraction of total points arising from 1-point tasks (Type I.1). A target for this is 50%-60%, with high school at the higher end of the range.

[32] Fluency is only contained in one portion of one standard in Grade 7.

[33] Securely held content used as the content scope for Sub-Claim D is assessed on grade level for modeling and should not be counted as part of the securely held (off grade level) points.

Grade 7				63	
7.RP			19		
7.RP.A	1	19			19
7.RP.Ax	18				
7.NS			7		
7.NS.A	1	7			7
7.NS.Ax	6				
7.EE			20		
7.EE.A		6			6
7.EE.Ax	6				
7.EE.B		14			14
7.EE.Bx	14				
7.G			8		
7.G.A		3			3
7.G.Ax	3				
7.G.B		5			4
7.G.Bx	4				
7.SP			9		
7.SP.A		2			2
7.SP.Ax	2				
7.SP.B		3			3
7.SP.Bx	3				
7.SP.C		4			4
7.SP.Cx	4				

Mathematical Practices

- Coverage constraint: Each MP is represented by at least one practice-forward task:
- Content integration constraint (in each content domain, there is at least one task associated with one or more MPs):
- Practice weight constraint: Percent of points from tasks that are practice-forward or practice-related: ≥ XX%